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EXAMINER	
WON, MICHAEL YOUNG	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/612,947	DONESCU ET AL.	
	Examiner	Art Unit	
	Michael Y. Won	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment filed July 10, 2007.

2. Claims 1, 4-8, 11, 19, 22-25, and 29 have been amended.

3. Claims 1-40 have been examined and are pending with this action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "the identifier" on page 3 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-14, 18-32 and 36-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Carter et al. (US 6,026,474 A).

INDEPENDENT:

As per **claim 1**, Carter teaches a method of processing a digital signal identified by a unique identifier in a distributed communication network composed of several communication apparatuses, comprising the steps of:

storing at least a part of the data constituting the identified digital signal in a local storage located in one of the apparatuses (see col.2, lines 56-58: "method for locally caching"; and col.4, lines 1-2: "each node may be responsible for storing particular element or elements of the structured store of data"); and

managing two descriptors related to the unique identifier within the local storage (see col.3, lines 63-65: "data control program which accesses and manages the structured store of data"), including a first descriptor which provides a description of the data constituting the identified digital signal (see Fig.4 and Fig.5; col.7, lines 43-50: "file Inodes or file descriptor 110 that includes various file attributes"; and col.9, lines 31-35: "Files are described in the file system 60 by objects called Inodes") and a second descriptor which is dependent on the first descriptor and representative of the part of the data stored in the local storage (see Fig.4 and Fig.5; and col.7, lines 23-35: "stream descriptor").

As per **claim 19**, Carter teaches a device for processing a digital signal identified by a unique identifier in a distributed communication network composed of several communication apparatuses, comprising:

means of storing at least a part of the data constituting the identified digital signal in a local storage located in one of the apparatuses (see col.2, lines 56-58: "method for locally caching"; and col.4, lines 1-2: "each node may be responsible for storing particular element or elements of the structured store of data"); and

means of managing two descriptors related to the unique identifier within the local storage (see col.3, lines 63-65: "data control program which accesses and manages the structured store of data"), including a first descriptor which provides a description of the data constituting of the identified digital signal (see Fig.4 and Fig.5; col.7, lines 43-50: "file Inodes or file descriptor 110 that includes various file attributes"; and col.9, lines 31-35: "Files are described in the file system 60 by objects called Inodes") and a second descriptor which is dependent on the first descriptor and representative of the part of the data stored in the local storage (see Fig.4 and Fig.5; and col.7, lines 23-35: "stream descriptor").

DEPENDENT:

As per **claims 2 and 20**, which respectively depend on claims 1 and 19, Carter teaches of further comprising updating the second descriptor as a function of the data representative of the identified digital signal received and stored in the local storage (see col.9, lines 15-18: "Inode is updated").

As per **claims 3 and 21**, which respectively depend on claims 1 and 19, Carter teaches of further comprising sending from a server apparatus, a notification of availability of the identified signal to at least one client apparatus in the communication network, including the first descriptor of the identified signal (see col.4, lines 65-67: "Each of the shared memory subsystems... provides its nodes with access to the addressable shared memory space" and col.5, lines 58-61: "provide information to their respective nodes that is indicative of this change to the structured store of data").

As per **claims 4, 5, 22, and 23**, which respectively depend on claims 3, 1, 21 and 19, Carter teaches of further comprising steps, performed by a server apparatus in the communication network, of:

receiving from a client apparatus a request containing the unique identifier (see col.19, lines 39-41: "receives requests to manipulate pages of the shared memory space"); and

sending to the client apparatus the second descriptor related to the unique identifier and representative of the data relative to the identified signal stored in the local storage, if the unique identifier is known by said server apparatus (see col.8, lines 59-65: "duplicating file Inode information in directory entries").

As per **claims 6 and 24**, which respectively depend on claims 5 and 23, Carter teaches of further comprising steps, performed by a server apparatus in the communication network, of:

receiving from a client apparatus one request of data relative to the identified signal (see col.19, lines 39-41: "receives requests to manipulate pages of the shared memory space");

retrieving in the local storage at least part of the requested data (see col.7, lines 32-35: "retrieve the various 4 kilobyte pages"); and

sending to the client apparatus the at least part of the requested data (see col.28, lines 13-16: "server transmits the Web page 402 to the terminal 420").

As per **claims 7 and 25**, which respectively depend on claims 2 and 20, Carter teaches of further comprising steps, performed by a server apparatus in the communication network, of:

receiving from a communication apparatus one request of data relative to the identified signal and one second descriptor representative of the data, which is locally present on the client apparatus at the origin of the request (see col.7, lines 32-39; and col.19, lines 39-41: "receives requests to manipulate pages of the shared memory space");

retrieving in the local storage at least part of the requested data (see col.7, lines 32-35: "retrieve the various 4 kilobyte pages");

sending to the client apparatus at the origin of the request the at least part of the requested data (see col.28, lines 13-16: "server transmits the Web page 402 to the terminal 420"); and

updating the second descriptor as a function of said at least part of requested data, which has been sent (see col.9, lines 15-18: "Inode is updated").

As per **claims 8 and 26**, which respectively depend on claims 5 and 23, Carter teaches of further comprising steps, performed by a server apparatus in the communication network, of: sending to another server apparatus the updated second descriptor and the request of data which has been modified to take into account the at least part of the requested data which has been previously sent by the server apparatus (see col.27, lines 61-64: "redirect"; and col.28, lines 54-58: "redirect").

As per **claims 9 and 27**, which respectively depend on claims 1 and 19, Carter teaches of further comprising steps, performed by a client apparatus in the communication network prior to said storing step, of:

receiving the first descriptor representative of the identified digital signal (see col.8, lines 59-62: "duplicating file Inode information"); and

storing the first descriptor in the local storage (see col.8, lines 63-65: "file Inode is stored").

As per **claims 10 and 28**, which respectively depend on claims 9 and 27, Carter teaches of further comprising steps, performed by a client apparatus in the communication network, of receiving a notification of availability of the data relative to the unique identifier (see col.4, lines 65-67: "Each of the shared memory subsystems... provides its nodes with access to the addressable shared memory space" and col.5, lines 58-61: "provide information to their respective nodes that is indicative of this change to the structured store of data").

As per **claims 11 and 29**, which respectively depend on claims 9 and 27, Carter teaches of further comprising steps, performed by a client apparatus in the

communication network, of sending to at least one server apparatus at least one request containing the unique identifier (see col.7, lines 32-35: "locate and retrieve").

As per **claims 12 and 30**, which respectively depend on claims 11 and 29, Carter teaches of further comprising steps, performed by a client apparatus in the communication network, for retrieving at least a part of the digital signal, of:

receiving at least one second descriptor representative of the data locally present on at least one server (see col.8, lines 59-63: "duplicating file Inode"); and

issuing at least one request of data, directed to said at least one server, as a function of the first descriptor and the at least one second descriptor (see col.7, lines 32-35: "locate and retrieve").

As per **claims 13 and 31**, which respectively depend on claims 12 and 30, Carter teaches of further comprising steps, performed by a client apparatus in the communication network, of receiving from at least one server at least part of the data constituting the identified signal and which has been specified in the previously sent request of data (see col.7, lines 32-35: "locate and retrieve").

As per **claims 14 and 32**, which respectively depend on claims 9 and 27, Carter teaches of further comprising steps, performed by a client apparatus in the communication network, of sending to at least one server at least one request or data as a function of the received first descriptor, and the second descriptor representative of the data locally present on the client apparatus (see col.7, lines 32-35: "locate and retrieve").

As per **claims 18 and 36**, which respectively depend on claims 15 and 33, Carter further teaches wherein the second descriptor has a hierarchical structure (see Fig.3 and Fig.4).

As per **claim 37**, Carter teaches of further comprising a device according to claim 19 (see Fig.1).

As per **claim 38**, Carter further teaches an information storage means which can be read by a computer or a microprocessor containing code instructions of a computer program for executing the steps of the method according to claim 1 (see col.17, lines 27-33).

As per **claim 39**, Carter further teaches a partially or totally removable information storage means which can be read by a computer or a microprocessor containing code instructions of a computer program for executing the steps of the method according to claim 1 (see col.4, lines 12-15 & 18-22).

As per **claim 40**, Carter further teaches a computer program loadable onto a programmable apparatus, comprising sequences of instructions or portions of software code for implementing the steps of the method according to claim 1, when said computer program loaded and executed by the programmable apparatus (see col.17, lines 27-33).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 15-17 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carter et al. (US 6,026,474 A) in view of Kalra et al. (US 5,953,506 A).

As per **claims 15 and 33**, which respectively depend on claims 1 and 19, Carter does not explicitly teach wherein the digital signal is in multi-resolution format.

Kalra teaches wherein the digital signal is in multi-resolution format (see col.3, line 66-col.4, line 6: "adaptive (or scalable) digital streams").

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Carter in view of Kalra so that the digital signal is in multi-resolution format. One would be motivated to do so because Carter teaches that the "data can be any form of data accessible over a network" such as "image files" (see col.27, line 65-col.28, line 3).

As per **claims 16 and 34**, which respectively depend on claims 15 and 33, although Carter teaches wherein the first descriptor is representative of the data (see col.7, lines 44-46: "that include various file attributes 112"), Carter does not explicitly teach representing all available resolutions and their representation units (precincts) in a compressed format.

Kalra teaches representing all available resolutions and their representation units (precincts) in a compressed format (see col.4, lines 24-30: "based upon that desired

resolution profile, select the appropriate base and additive streams from the available adaptive digital stream"; and col.5, lines 63-64 & col.6, lines 9-10: "compression").

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Carter in view of Kalra by implementing representing all available resolutions and their representation units (precincts) in a compressed format. One would be motivated to do so because Carter teaches that the "data can be any form of data accessible over a network" such as "image files" (see col.27, line 65-col.28, line 3) and further teaches that the files are described in the system by objects called Inodes (i.e., descriptors) (see col.9, lines 32-33).

As per **claims 17 and 35**, which respectively depend on claims 16 and 34, Carter and further teach wherein the second descriptor is representative (see col.9, lines 32-35: "described... by objects called Inodes... ") of the units of the compressed format (precincts) (see claims 16 and 34 rejection above for motivation) as referenced in the first descriptor (see col.7, lines 45-49: "points to a data stream descriptor").

Response to Arguments

7. Applicant's arguments filed July 6, 2007 have been fully considered but they are not persuasive. The applicant(s) argue with respect to claims 1 and 19 that Carter does not explicitly teach or suggest "managing two descriptors related to the unique identifier within the local storage, including a first descriptor which provides a description of the data constituting the identified digital signal and a second descriptor which is dependent

on the first descriptor and representative of the part of the data stored in the local storage.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Carter teaches of plurality of descriptors. Specifically, Carter teaches of an identifier associated with a fileset (see col.7, lines 14-17). Carter further teaches of "Inodes" that provides a description of the data constituting the identified fileset or "identified digital signal" (see col.9, lines 31-35) and "stream descriptors" that point to the block of entries associated with the fileset or represents "part of the data stored" (see col.7, lines 23-35). It is inherent that since these descriptors are related to the fileset, they are clearly related to the identifier of the fileset.

For the reasons above, claims 1-40 remain rejected and pending.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Y. Won whose telephone number is 571-272-3993. The examiner can normally be reached on M-Th: 7AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Won/

Primary Examiner

August 28, 2007